

DEP SPECIFICATION

**UT IN LIEU OF RT FOR CODE CONSTRUCTION OF
PRESSURE EQUIPMENT**

DEP 31.22.00.12-Gen.

February 2017

ECCN EAR99

DESIGN AND ENGINEERING PRACTICE



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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for implementation of Ultrasonic Testing (UT) in lieu of Radiographic Testing (RT) when referenced by the following DEPs:

- DEP 31.22.00.31-Gen. for unfired pressure vessels.
- DEP 31.38.01.31-Gen. for shop and field fabrication of piping.
- DEP 34.51.01.33-Gen. for field erected above ground vertical storage tanks.
- DEP 34.51.01.31-Gen. for double containment tank construction.

The requirements in this DEP are amendments/supplements to UT in lieu of RT in the following codes and standards for the corresponding type of pressure equipment:

- ASME BPVC Section VIII, Div 2, Paragraph 7.5.5 for pressure vessels.
- ASME B31.3 Code Case 181 for process piping.
- API STD 650 Annex U for oil storage tank.
- API STD 620 Annex U for low pressure storage tanks.

The materials covered in this DEP include carbon steel (CS), Cr-Mo steel, austenitic steel and duplex steel.

The requirements in the following documents also apply for specific materials:

- DEP 30.10.02.32-Gen. for Materials and fabrication requirements for $2\frac{1}{4}$ Cr-1Mo, $2\frac{1}{4}$ Cr-1Mo- $\frac{1}{4}$ V, 3Cr-1Mo & 3Cr-1Mo- $\frac{1}{4}$ V heavy wall pressure vessels.
- ISO 22825 for technique selection, procedure development and operator qualification requirements for inspection of austenitic welds and duplex steel.

This is a revision of the DEP of the same number dated February 2014; see (1.5) regarding the changes.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

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This DEP is intended for use in facilities related to oil and gas production, gas handling, oil refining, chemical processing, gasification, distribution and supply/marketing. This DEP may also be applied in other similar facilities.

When DEPs are applied, a Management of Change (MOC) process shall be implemented; this is of particular importance when existing facilities are to be modified.

If national and/or local regulations exist in which some of the requirements could be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable with regards to the safety, environmental, economic and legal aspects. In all cases, the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this DEP as closely as possible.